

Claims

- 1) Sofa bed provided with an innovative position adjustment mechanism and a fast assembly process, comprising padding elements, a base structure (1) a mutually hinged number of frames (2), supported by said base structure and supporting said padding elements; and a kinematic mechanism (3) to change the frames positions; moreover, the base structure comprises two identical elements, named "small legs" (4), a spacer (5), and is characterised by a "hinge" plate (6), fixed on the small leg (4), which consists of two flat surfaces with an almost rectangular hole (7); said hole is tapered on one side (8) to lodge the spacer (5).
- 10 2) Sofa bed according to claim 1, wherein said spacer (5) is forced in the tapering (8) of the holes (7) by only one bolt.
- 15 3) Sofa bed according to claim 1 or 2, wherein said "hinge" plate has a pin (12), which allows the articulation of frame (10) around a hole (11) and the frame stop; said pin has an end (12') engaged in the hole (11) of the frame (10), that works as a rotation axis, and a portion (12'') that works as a block element of the frame (10).
- 20 4) Sofa bed according to claim 3, wherein said pin (12) is forced by a return spring: loosing the spring tension, the pin is inserted in both holes of the two "hinge" plates (6); without using any tool and overcoming the spring preload,

the frame (10) can be disengaged and fixed to another hole, obtaining a different inclination of the sofa back.

- 5) Sofa bed according to one of the claim from 1 to 4, wherein, on the free end of the "small leg" (4), there is a roller (13) which has a cross section complementary to the profile of a cam (14); being the mechanism in the sofa configuration, the two sections are each other engaged; said roller (13) is characterised by a central groove (13'), few millimetres wide, in which the cam is lodged.
- 10) 6) Sofa bed according to one of the previous claims, wherein a front leg (15) can rotate around an axis up to a certain interval.
- 15) 7) Sofa bed according to claim 6, wherein the desired position of said front leg (15) is realized by a further plate (16), fixed by a single bolt and having two block elements: the first one (18) realized on the leg, the second one realized on the cam.
- 20) 8) Sofa bed according to claim 7, wherein said block elements can be realized by pins, either inserted in complementary holes or working on the external profile of the leg (15) or the cam (14).
- 9) Sofa bed according to claim 7 or 8, wherein said fixing plate (16) has a portion (20) at 90 degrees to the fixed one on the front leg (15), having a number of holes, to be used to fix the panels of different sofa models.
- 25) 10) Sofa bed according to one of the previous claims, wherein it

needs only 6 bolts for the whole assembly procedure. In fact, each structure side has 3 bolts: the first one to fix the spacer (5) to the "small leg" (4), the second to fix the cam (14) to the frame and the third one to fix the back leg (21) to the seat frame (2).

5